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• Departmental staff expenses are proportionally added to bill lines based upon direct and allocated expenses.

- Indirect expenses (primarily administrative services, corporate services, headquarters occupancy, accounting operations, and cost of capital) are allocated to work profiles/bill lines as discussed previously.

Conduit billing occurs when ASI procures and pays for material and/or services on behalf of an affiliated Ameritech company, such as IBT. If the total project cost is \$10,000 or greater (for all companies) or an individual company's cost is \$5,000 or greater, a Project Summary and Funding Authorization (PSFA) form (and project code) is required.²¹⁴ Those projects not meeting the \$5,000/\$10,000 limit do not require written approval or a project code; however, the ASI project manager subsequently must receive concurrence for the billing and accounting information from the participating companies.²¹⁵ A PSFA form is also required if projects do not fall into one of the following categories:

- Shared costs for a special project paid for by ASI, but not applicable to its budget
- Training classes arranged and paid for by ASI, for representatives of Ameritech affiliates
- Common conference expenses paid for by ASI where costs are prorated to attendees, and all or part of the costs are billed back to affiliates
- Other miscellaneous expenses paid for by ASI and applicable to one or more affiliates

Conduit billing is to be used for one-time or short-term projects only, not for ongoing projects (that lap into a second year). There are two types of conduit billing — to AOCs and to non-affiliates — from ASI's perspective.²¹⁶ In conduit billing to AOCs, a Billing Authorization form (AP60-002B) accompanies a Voucher for Invoices Not Covered by Purchase Orders form (AP60-002). The ASI employee responsible for procuring the equipment, material, and/or services is also responsible for obtaining the required AOC accounting information (company to be billed, amount to be billed, description of charges, accounting codes, etc.) in advance from the AOC personnel authorizing the charges. When all expenses are to be billed to two or more AOCs only, and prior agreement for the allocation of those costs has not been determined, the allocation of costs to each AOC generally defaults to weighted Ameritech allocation factors. In charging non-AOC affiliates, however, accounting information is not required.²¹⁷

Procurement (warehouse) billing (for stock and/or non-stock materials) occurs weekly via a separate Warehouse system.

Belcore billing is similar to conduit billing in that it is also a flow-through billing process. Starting in 1992, accounting classifications for affiliated transactions from Belcore to ASI for AOCs were modified, as shown in *Exhibit IV-9*. The AOC-related transactions are now included in ASI's budget and recorded in both expense and revenue accounts. Only a small portion of total Belcore affiliate transactions (for training of ASI employees) was included in ASI's general ledger as expense items (Account 6310-3100).²¹⁸

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Exhibit IV-9
ASI Accounting for Bellcore Transactions

Type	Account	Description
Expense	7810-1000	AOC-related transactions
	7810-2000	AOC-related transactions (Bellcore technical training only)
Revenue	5410-1100	Illinois
	5410-1200	Indiana
	5410-1300	Michigan
	5410-1400	Ohio
	5410-1500	Wisconsin

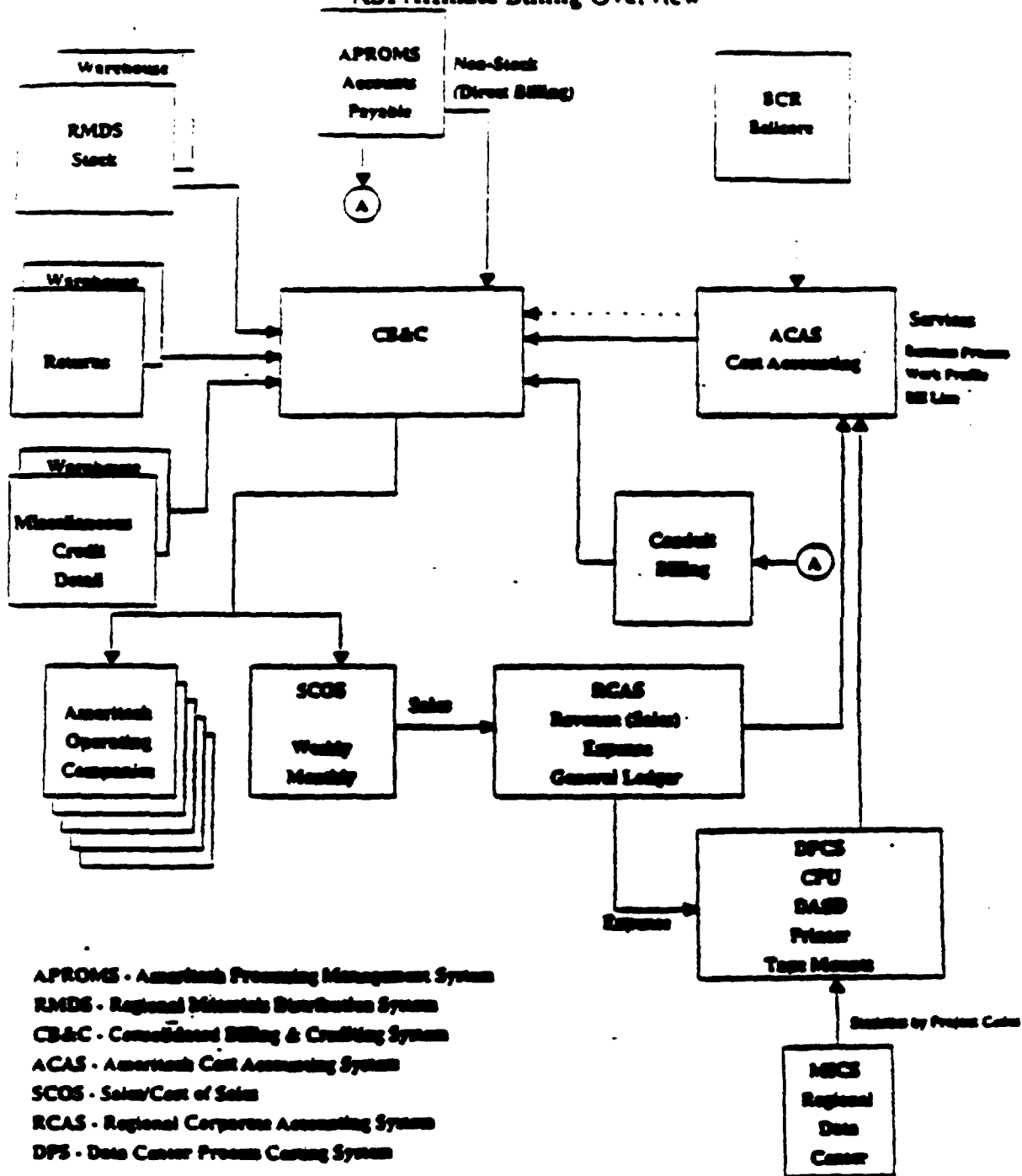
During 1991, however, affiliate transactions from Bellcore (BCR) to ASI regarding AOCs' work were passed directly through ASI's billing process and recorded only in ASI's balance sheet (Account 1220-1000). As in 1992, these transactions for training of ASI employees were also recorded as expense items (Account 6310-3100). Refer to *Chapter V - Bellcore* for a detailed discussion of Bellcore's affiliate transactions and associated billing. The ASI affiliate billing process is illustrated in *Exhibit IV-10*.²¹⁹

A summary invoice is provided in hard-copy form; supporting documentation is provided via a magnetic Consolidated Billing and Crediting System (CB&C) tape for reporting affiliate transactions and interfacing with IBT's computer systems.²²⁰

Those individuals performing Part 64 separations are AOC employees, centralized (not consolidated) at ASI headquarters, who separately perform work for the AOC organizations. Those individuals performing Part 69 separations are located within each operating company, but have declined from approximately 170 in 1984 to 30 in early 1993.²²¹ When ASI project codes are assigned, the FCC regulatory status (regulated, nonregulated or shared) is determined. Based upon functional accounting codes, including use of project line codes (PLC) and job function codes (JFC) assigned by ASI to a work profile/bill line/project code combination, IBT assigns Part 32 account codes and performs Part 64/69 separations.²²² Only those project codes with similar regulatory status are rolled up to a particular bill line, therefore, the regulatory status has already been determined when affiliated transactions are transferred to IBT.²²³ The cost allocation methodologies in use for separation between regulated and unregulated costs are listed in *Exhibit IV-11*.²²⁴

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**Exhibit IV-10
 ASI Affiliate Billing Overview**



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**Exhibit IV-11
 Methodologies for Separation Between Regulated and Nonregulated Costs**

Cost Pools	Apportionment Basis	Cost Definition
Regulated	Directly Assigned	Directly Assignable
Nonregulated	Directly Assigned	Directly Assignable
Shared	General Allocator	Unattributable
Shared-Network	Network Total Costs (Accounts 22XOL 23XOL 24XOL 62XOL 63XOL 64XOL 65XOL)	Indirectly Attributable
Shared-Marketing	Marketing Allocator (Accounts 6611, 6812, 6813)	Indirectly Attributable
Shared-Other	General Allocator	Unattributable

The cost pools generally are defined by either functional accounting codes, analysis of projects, or both.

Perform RIM Loading and Analysis

S-WS-40006 *Ensure that RIM is populated to accurately reflect the costs and allocations attributable to Ameritech Services, Inc.*

This section provides an explanation of the integrated software model used by the consultant to evaluate the flow of ASI professional services charges to IBT, and to predict the impact of changes or variations of these charges. The Regulatory Impact Model (RIM), created in Microsoft Excel, has been automated to process costs, accounting classification, and allocation data from ASI. RIM provides the ability to adjust all ASI charges and all allocation factors so that the final impact of these adjustments can be predicted at the IBT intrastate level.

The Nature of ASI Charges

All ASI expenses are first accumulated by responsibility center (RC) and then summed to project, bill line, and work profile numbers. As of January 1992, using this new approach ASI revised its approach of managing services provided to each of the five AOCs. Prior to 1992, ASI summed billing data to work categories and work programs. The consultant attempted to use the combination of bill lines and work profiles for both 1991 and 1992 as the basis for further evaluation and tracking of charges to IBT. However, due to the complex nature of ASI's accounting system and to the changes made in January 1992, two separate data arrays were created using 1991 work category/work program and 1992 work profile/bill line data.

Bill lines provide the "lowest common denominator" of billing information regarding work profiles. Each work profile can consist of multiple bill lines, but the same bill line number cannot be used for multiple work profiles. The bill line number provides information identifying the jurisdiction(s) for which the work is being performed. For example, bill lines

beginning with the alpha character "A" are charged to multiple AOCs using the TOE/TPIS general allocator. Bill lines beginning with the alpha character "L" are for Illinois-related work and are charged 100% to Illinois. Finally, each bill line can only have one specific function/field reporting code (FC/FRC) under which the work is being performed. Because FC/FRCs are the basis for IBT assigning FCC Part 32 Account Classification numbers (A/Cs), expenses associated with each bill line cannot be split into more than one Part 32 A/C.²²⁶

Finally, ASI prepares and transmits monthly professional services bills to IBT and the other Ameritech entities. These bills are summarized by IBT to Part 32 A/C. IBT then uses the Part 32 A/C to further determine FCC Part 64 regulated versus non-regulated costs, and FCC Part 36 interstate/intrastate separations.

Regulatory Impact Model Description

The two primary functions of RIM are:

- To attempt to replicate the accounting processes for professional services charged by ASI to IBT throughout the remainder of the cost allocation process
- To enable the model user to adjust the expense charges, as well as the cost allocation methodologies, so that the impact of each expense charge can be determined at the Illinois intrastate level

The consultant obtained either hard-copy or electronic versions of ASI's monthly work profile/bill line (CATS 1160 and 1170 reports). The CATS 1160 report provides total ASI expense information and identifies how total expenses are allocated to each AOC. The CATS 1170 report identifies IBT specific expenses and provides the FC/FRCs necessary to determine Part 32 A/Cs. Further, because CATS 1160 information was unavailable electronically, the consultant was unable to use RIM for analyzing total ASI expenses (due to the extensive data involved) and how these expenses are allocated to IBT. The consultant manually investigated and analyzed ASI total costs and allocation methodologies through cost testing procedures discussed in the *Transaction Testing* section in this chapter.

Similarly, it is important to realize that due to the complexity of the accounting processes, RIM does not and could not precisely duplicate each step of IBT's accounting process. For example, the consultant did not attempt to replicate Part 64 and Part 36 accounting processes because:

- Programming each of the rules would have required an inordinate amount of model development time
- Due to constant revisions to rules and their interpretations, a significant and unrealistic amount of continual model maintenance would have been necessary

As part of the model development process, the consultant analyzed the impact of Part 64 and 36 rules on ASI charges and replicated their impact within RIM. By trending and averaging across the 12-month test period (using IBT filings), the consultant was able to ensure that Part 64 and 36 factors used resulted in charges that closely matched actual charges experienced.²²⁷

Initial Treatment of ASI Test Period Data

The original 1991 data consisted of over 2,000 expense records provided by month, by work program, and by bill line. The consultant summarized the detailed expense records to obtain sub-category and bill line totals for the 1991 portion of the test period. This resulted in a final array of over 600 expense records.

The original 1992 data included over 14,000 actual expense records provided by month, by work profile, and by bill line. The consultant summarized the detailed expense records to obtain profile and bill line totals for the 1992 portion of the test period. This resulted in a final array of over 1,000 expense records.

Part 64 Determinations

Once Part 32 A/C numbers were added, RIM determined the regulated-versus-nonregulated portions under FCC Part 64. For the test period, RIM assigned regulated portions according to actual 1991 and trended 1992 percentages for each of the Part 32 A/Cs. The model users can override the percentages provided by RIM in order to perform "what if" analyses or to reflect potential changes in the regulated portions of those ASI expenses that have been charged to IBT.

Part 36 Separations

Once regulated portions of state charges are identified, RIM determines the interstate-versus-intrastate separations under FCC Part 36. For 1991 actual charges, RIM separated Part 36 interstate portions according to the actual 1991 and trended 1992 percentages for each of the major Part 32 A/Cs. Intrastate portions of the expenses were calculated by subtracting the interstate portion from the remaining FCC regulated costs. The model users can override the interstate percentages provided by RIM in order to perform "what if" analyses or to reflect potential changes in the interstate portions of IBT's FCC regulated expenses.

State Income Statement Line Item Summary

RIM then summarizes the regulated, intrastate portion of all ASI professional services charges up to the income statement line item level. This facilitates determination of an ultimate impact of a work profile/bill line on utility expenses and investment, and subsequently, its impact on IBT's rates.

Findings and Conclusions

The following identifies any findings and conclusions associated with work steps S-WS-40004, S-WS-40005, or S-WS-40006 included in the *Value and Cost Assessment - RIM Development* section of this chapter.

IV-F41 The hierarchy of charges set forth in the ASI's stockholders' agreement, and actually being used, favors Illinois ratepayers over some alternative cost-causative drivers.

The hierarchy designated by ASI stockholders' agreement for assigning costs when work is being performed for more than one stockholder specifies:²²⁸

1. As set forth in Exhibit A of the stockholders agreement (This reference is to the TOE/TPIS general allocator.)
2. Based on such stockholder's usage of such work
3. Based upon a direct charge for such work

This order relies heavily upon unattributable cost apportionment via a general allocator, rather than direct or indirect attribution of costs using cost causative drivers. Although some of ASI's "directly assigned" costs are based upon direct charges to a work profile/bill line/project combination, extensive use of the TOE/TPIS general allocator occurs. In fact, the TOE/TPIS allocator is the only allocator used for direct expenses; no cost causative allocators are used for allocating ASI wages, benefits, employee-incurred expenses, and outside vendor expenses, when multiple AOCs are involved. Although generally well-defined and consistently applied, the direct billing and allocation methodologies are not founded upon what are generally considered reasonable and fair factors and bases.

Included in *Exhibit IV-12*²⁰ are the 1992 weighted Ameritech allocation factors based upon various company participation combinations.²⁰ The use of the TOE/TPIS general allocator favors Illinois ratepayers and has been used since ASI was initially created. These 1992 factors are derived from a simple average of Total Operating Expense and Total Plant in Service for the period of July, 1990 to June, 1991. In most situations, the weighted Ameritech allocation factor - for five participating AOCs is used, in which the IBT portion of these costs was 30.03% in 1992 and 30.32% in 1991. The weighted Ameritech allocation factors are reviewed and revised annually.²¹

A preliminary analysis of two other allocation factors — access lines (total, business only, and residential only) and employees — in *Exhibit IV-13* reveals that Illinois ratepayers would be charged a greater percentage of ASI costs if used in place of the TOE/TPIS allocator.

IV-F52 Time reporting policies and procedures are not rigorously applied.

Both positive and exception time reporting are used by ASI employees, based upon data gathered from the ATIME and MITRE systems, respectively. Those employees performing I/T-related work generally do positive time reporting, while all other ASI employees generally do exception time reporting. If used properly, either time reporting methodology can provide accurate time reporting information and data; however, accurate results depend upon the diligence of the work force in accurately reporting time on a timely basis. For example, the one discrepancy found in the internal control cost testing was an employee who failed to submit time sheets (for exception time reporting).²²

Time reporting, however, is only helpful if appropriate project codes (and the roll-up to work profiles/bill lines) are set up. For example, based upon comments received during early interviews, much of the work activity performed at ASI relates to work profiles and projects which are designed to benefit all five AOCs. It was indicated by some of the interviewees that employees performing exception time reporting often do not create AOC-specific project codes to keep a minimal number of these project codes for time reporting. For example, those ASI employees attending the referenced interview were not tracking their time to an Illinois-specific

project code (related to this study), but to a regionally based (all five AOCs) project code. The general ASI philosophy is based upon a belief that all AOCs benefit. ASI believes that if a later project occurs, during which an ASI employee performs a similar activity for a different AOC, it takes less effort. Rather than tracking their time (and expenses) during the first project to a particular AOC, then trying to compensate the first AOC "after-the-fact" when a second AOC benefits from those experiences learned during first AOC project, ASI employees merely split their time among all five AOCs. It is ASI's belief that "it all evens out in the end," however, this really cannot be proven.²³³

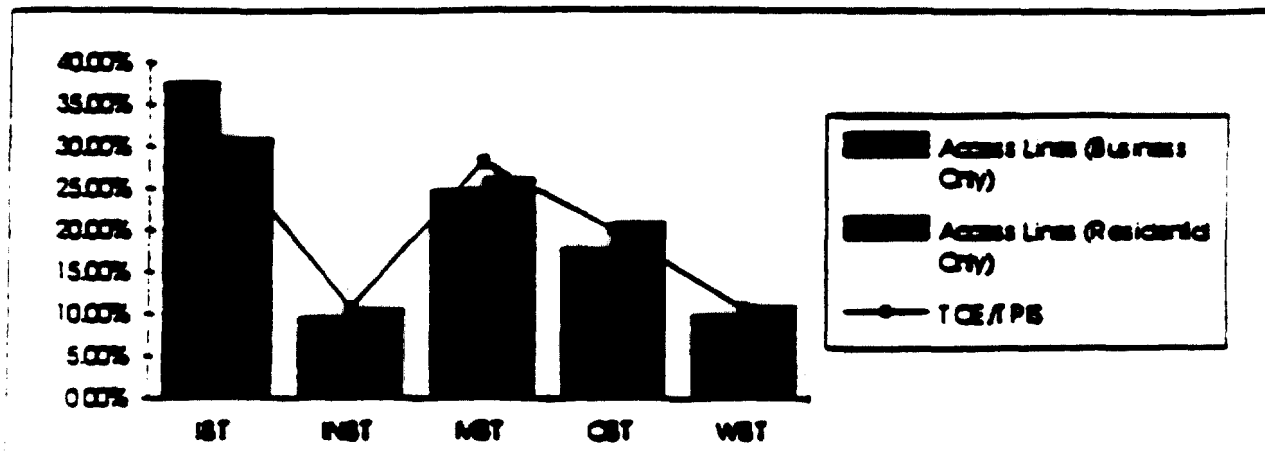
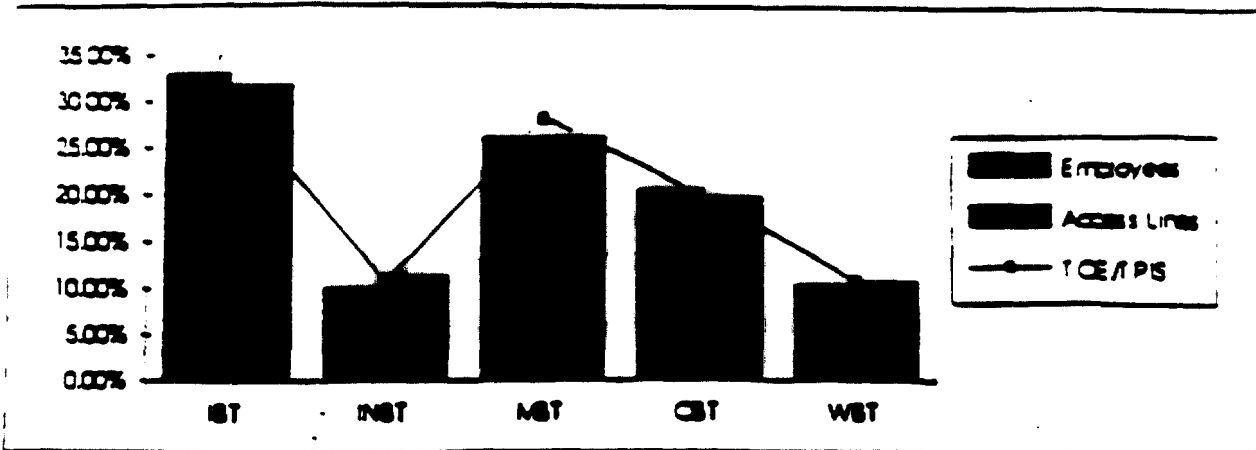
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Exhibit IV-12
1992 Weighted Ameritech Allocation Factors

#	Illinois	Indiana	Michigan	Ohio	Wisconsin	Total
5	30.03%	10.79%	28.28%	20.18%	10.72%	100.00%
4	33.64%	12.09%	31.67%	22.60%		100.00%
4	37.62%	13.52%	35.43%		13.43%	100.00%
4	41.87%	15.04%		28.14%	14.93%	100.00%
4	33.66%		31.70%	22.62%	12.02%	100.00%
4		15.42%	40.42%	28.84%	15.32%	100.00%
3	43.46%	15.61%	40.93%			100.00%
3		18.21%	47.73%	34.06%		100.00%
3			47.79%	34.10%	18.11%	100.00%
3	38.26%		36.03%	25.71%		100.00%
3		25.88%		48.41%	25.71%	100.00%
3	43.50%		40.97%		15.53%	100.00%
3	49.29%			33.12%	17.59%	100.00%
3	58.27%	20.94%			20.79%	100.00%
3	49.23%	17.89%		33.08%		100.00%
3		21.67%	56.80%		21.53%	100.00%
2	73.57%	26.43%				100.00%
2		27.62%	72.38%			100.00%
2			58.36%	41.64%		100.00%
2				65.31%	34.69%	100.00%
2	51.50%		48.50%			100.00%
2		34.84%		65.16%		100.00%
2			72.51%		27.49%	100.00%
2	59.81%			40.19%		100.00%
2		50.16%			49.84%	100.00%
2	73.69%				26.31%	100.00%

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**Exhibit IV-13
 Alternative Allocation Factors**



Factor	IBT	INBT	MBT	OBT	WBT	
TOE/TPIS	30.03%	10.79%	28.28%	20.18%	10.72%	100.00%
Employees	33.07%	10.00%	26.07%	20.56%	10.30%	100.00%
Access Lines	31.89%	11.34%	26.24%	19.85%	10.69%	100.00%
Access Lines (Business Only)	37.70%	9.67%	24.87%	17.77%	9.98%	100.00%
Access Lines (Residential Only)	31.11%	10.57%	26.23%	21.06%	11.04%	100.00%

Because some exception time reporting is still used, and sufficient AOC-specific project codes do not exist for both positive and exception time reporting, the procedures for accumulating and assigning cost are inappropriately applied; therefore, the actual costs for services (time and expenses) performed by ASI to IBT cannot be specifically assessed or quantified. In fact, improved time reporting could result in greater or lesser charges to IBT. Besides estimation inaccuracies, ineffective time reporting negatively impacts a manager's ability to manage the

department as efficiently and effectively as possible. Thus, in turn, could result in inefficient costs being incurred by ASI, and these resulting costs being subsidized at least partially by Illinois ratepayers. These comments do not necessarily suggest that management reporting does not exist within ASI departments, rather they indicate that much of the information could be more useful when augmented by information developed from improved time reporting.

IV-F63 The few reviews of ASI's cost accumulation, assignment, and allocation processes that have been performed by Ameritech's internal and/or external auditors result in inadequate audit focus and follow-up for ensuring the appropriateness of these methodologies or the proper implementation of related procedures.

Any internal or external reviews of ASI's cost accumulation, assignment, and allocation processes and compliance with policies for the years 1989-1992 were requested as part of this study; three reports were provided by IBT and reviewed by the consultant.

The first was a 1989-1990 valuation of performance and reliability of CATS+ reporting performed by the Ameritech internal audit function. The scope of the review included a review of systems security, documentation, and major modifications made to the system since the last internal audit performed. This review found (1) efforts to correct or improve professional services and Bellcore billing programs had been completed, and (2) efforts were still under way to correct programs that proportion the materials management cost allocation for local purchasing, central purchasing, departmental staff, and cost of capital. The required materials management software modifications were scheduled for the first quarter of 1990 and performed in the first half of 1990; the internal audit function expected to perform a follow-up audit to monitor testing. Although all audits for 1989-1992 were requested, no follow-up audit results were provided.²³⁴ However, according to IBT management, follow-up audit procedures were performed in May and June of 1990.²³⁵

The second report was a mid 1992 application review of the Ameritech Data Processing Costing System (DPCS). The purpose of this review was to determine whether information provided by DPCS met the needs of management, and whether the methods, procedures, and controls for ensuring accuracy and completeness of data processing costs (as incurred by ASI consolidated data centers and charged back to users via DPCS) were appropriate. The significant results of this review included:²³⁶

- Neither ASI nor AOC management information needs were being addressed by DPCS — Neither organization has sufficient cost data to manage its part of the business effectively but a new reporting vehicle was recommended.
- Data interface balancing methods and procedures are inadequate — Automated controls did not exist to adequately balance data from systems feeding DPCS; only manual review based upon a random sampling of data is performed. The solution was anticipated by early 1993.
- Monthly data systems cost reconciliations are not performed to identify any project under or over billings for adjustment in next billing cycle — Adjustments are being done at the aggregate level and not the project level; therefore, the internal auditors

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believed that appropriate costs may not be properly allocated between regulated and non-regulated cost pools. This practice was supposed to begin based upon internal audit report issued.²³⁷

- Change control procedures are inconsistent — Effective mid 1992, this problem was resolved.
- Project adjustments and data center idle capacity costs may not be accounted for in accordance with Part 64 requirements — During 1991 and 1992, idle capacity costs were billed to the AOCs based on percentage ownership (33%), then allocated between regulated and non-regulated based upon percentage of regulated and non-regulated computer investment. The internal auditors believed, and the consultant agrees, that this methodology may not reflect the true relationship of regulated and non-regulated data systems costs billed by ASI. They recommended that idle capacity costs be allocated between regulated and non-regulated based on the relationship of regulated and non-regulated ASI data systems costs to total ASI data systems costs.²³⁸
- Responsibility for the classification of expenses that are billed to AOCs is not clearly defined.

The third report was an early 1990 review pertaining to the processing of order writing, pending orders, and loop closure portion of RMDS in which no exceptions were noted.²³⁹

Recommendations

The following identifies any recommendations associated with work steps S-WS-40004, S-WS-40005, or S-WS-40006 included in the *Value and Cost Assessment - RIM Development* section of this chapter.

IV-R44 Increase the use of positive time reporting and AOC-specific project codes. (Refer to Finding IV-F5.)

To implement improved time reporting, the consultant recommends that ASI management establish a project team devoted to working with those ASI departments currently performing no positive time reporting. The project team should help the departments develop a positive time reporting process and establish additional AOC-specific project codes. Increased use of positive time reporting — as opposed to having many ASI employees still relying on exception time reporting — would improve the accuracy of time reporting. In addition, the increased use of AOC-specific project codes would allow ASI employees to more properly reflect how they spend their time. By modifying how its employees charge time, the charge to IBT may change. The amount of the charge may, in fact, increase. It will, however, be more defensible by IBT. The company's contention that "it all evens out in the end" may be true, but the result cannot be proven unless time reporting is improved. The company will be able to determine whether "after-the-fact" adjustments are needed to fairly compensate each of the AOCs.

IV-R55 Improve audits and reviews of cost assignment and accumulation methodologies by developing a formal audit schedule which more extensively focuses on affiliate transactions between ASI and IBT. (Refer to Finding IV-F6.)

Based upon the scrutiny frequently placed on affiliate relationships and transactions in the regulated utility industry, the Ameritech internal audit function should develop a formal audit schedule that regularly and routinely focuses in this area. These reviews should not consist solely of financial reviews, but should also include management and operations reviews of those activities performed at IBT and ASI involving affiliate relationships and transactions.

SAMPLE IDENTIFICATION

Identify Random Sample for Internal Controls

S-WS-40007 *Select and test a statistical sample or series of samples to provide assurances that procedures for accumulating and assigning costs and direct billing and allocation methodologies are actually followed.*

The following describes the process followed (including establishment of test objectives, population definition, definition of the sampling unit and sample size, and the development of the audit sampling techniques used) for testing ASI's internal controls.

Test Objectives and Population Definition

By testing the internal controls surrounding the ASI population of billings to IBT, the consultant can determine whether internal control systems exist and are appropriately operating (as transactions occur, are processed, and finally billed) to control accuracy and validity of data. If internal controls exist and are determined to be functioning properly, the consultant has additional assurance that the population to be tested is accurate and valid. Conversely, to the extent that internal controls do not exist or are not functioning properly, the consultant has no additional assurance that the data is accurate or valid. If controls are found to be functioning, a smaller target sample can be used to conclude (on the population as a whole) during target testing. If controls are not functioning, a larger target sample needs to be taken to conclude on the target testing.

To begin the testing process, the components of ASI billings were identified and separated into discrete populations based on a summary report that accumulated the ASI billing information and data at the ASI level. Exhibit IV-14 lists the types of billing information sampled, the report that summarizes the data, and the percentage of the entire ASI population (based upon July, 1992 revenues) it represents:

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**Exhibit IV-14
 Type of Billing Information Sampled**

Billing Information	Report	% of Population
Professional Services	CATS 1160	49%
Procurement - Stock only	RMDS	41%
Bellicore	CATS 9220	<u>10%</u>
		100%

Because conduit billings do not flow through ASI's income statement (revenues and expenses), they are not shown above as a percentage of July ASI revenues. To indicate conduit billings' relative size, however, total July ASI conduit billings as a percentage of total ASI revenues would be 1.5%.²⁴⁰

Non-stock billings were not considered as part of the audit's testing because non-stock material items are purchased on behalf of IBT strictly on a flow-through basis. No loadings are included in costs passed through from ASI to IBT.

The ASI internal controls testing, therefore, revolves around four ASI populations (professional services, stock materials, Bellicore, and conduit billings).

Sampling Unit and Sample Size

The sampling unit for internal controls testing is an item chosen randomly from the population being tested. The number of sampling units required for the consultant to conclude on the effectiveness of internal controls is determined based on the consultant's consideration of the confidence interval (or the risk of incorrect acceptance) and the consultant's assessment of tolerable and expected error. These factors are input into standard American Institute of Certified Public Accountants (AICPA) sampling tables to determine the appropriate sample size. Using a tolerable error of 10%, an expected error of 1%, and a confidence interval of 95%, it was determined that a sample of 37 items (from each population) needed to be tested with one or fewer errors resulting to conclude that internal controls are functioning properly. The slightly more conservative stance (as compared to other tests performed during this audit) of 1% expected errors was taken for ASI sampling due to the complexity and size of ASI's population. The sampling performed in other focused audit areas used 0% expected errors because the consultant working in those areas determined that percentage to be appropriate for that particular population. The consultant reviewing ASI, however, expected a slightly higher degree of error. When errors are expected, a larger sample needs to be tested to conclude on a population from sample results. If an environment with zero errors is expected by a consultant, fewer items need to be tested to make a conclusion on a population, as determined by using AICPA sampling tables. If a consultant believes a population to be fraught with error, s/he will increase the testing sample size. The particular error rate employed is determined by a consultant using judgment, based on population size, complexity, variability, and any other item the consultant believes may affect the population.

If zero percent expected errors for ASI had been assumed, the AICPA sampling tables would have determined a sample size of 30 items. The 37 sample items (except for conduit billing), however, were selected randomly from each population. Due to the small population size of the conduit billings, 1% of the items were selected randomly.

Audit Sampling Technique Used

The sampling methodology generally used (except for conduit billing) was a dual-purpose methodology called probability-proportional-to-size (PPS) sampling. PPS sampling is a hybrid approach between attribute and variable sampling, which uses attribute sampling theory to express a conclusion in dollar amounts rather than as a rate of occurrence.²⁴¹ Dollar amount exceptions were not calculated at the conclusion of the internal controls testing; rather, the conclusions reached were based upon a determination of whether the internal controls were functioning appropriately. PPS sampling, however, was still a valid random methodology for choosing a sample. PPS sampling is also used for target testing, which allows for a dollar exception amount to be calculated at the conclusion of those testing procedures. Using the same methodology in both internal controls testing and target testing helps maintain some consistency between tests. To select the sample using PPS sampling, the consultant calculates the absolute population dollar amount and divides it by the sample size to obtain the PPS skip interval. The sample items are selected by starting at a random dollar point between one and the skip interval. From the random start, individual dollar amounts of items in the population are added together until the skip interval is exceeded. The item that pushes the cumulative total over the skip interval is then selected as a sample item.

Before cost testing began, a cost testing checklist was compiled, using the consultant's team knowledge of appropriate procedures and ASI's general accounting instructions and accounting bulletins. The checklist was divided into two categories: generic testing issues, and issues specific to transaction type. Those issues specific to transaction type were further broken down as follows:

- Time reporting/payroll/expenses vouchers
- Outside vendor expenses
- Data center charges
- Occupancy charges
- Cost of capital
- Overhead charges
- Conduit billing
- Bellcore billing
- Asset transfers/sales
- Leased property

This checklist was used during testing procedures, in conjunction with the general accounting instructions and accounting bulletins, to aid the consultant in determining whether supporting documentation was in compliance with ASI policies and procedures. Additionally, the consultant performed a reasonability test on the type of item reviewed.

A sample of 37 was selected from each of the ASI populations (except conduit billing), as previously described. A test month was generated at random and that month (July, 1992) was used for internal controls testing. It was determined through discussions with various ASI managers that internal controls had not changed significantly during the test period (September 1, 1991 to August 30, 1992), so — by testing one month in detail — the consultant was able to determine whether controls were functioning properly. The testing differed slightly between various ASI population segments as described below.

Selections were made from the CATS 1160 report (professional services) to test the disposition of ASI transactions (including services performed for both stockholders and non-stockholders), not just IBT-related transactions. In this way, transactions that should have impacted IBT, but did not, would also have a chance of being selected. This differs from target testing, where all selections were made from ASI's billings to IBT only. Each line of an ASI bill generally reflects a work profile/bill line combination and is supported by many transactions. In a few cases, lines are further broken down by regulatory status. Our internal controls test was constructed to test one piece of supporting documentation for each sampling unit. Through a series of reports, the activity that rolled up into each work profile/bill line combination was determined by account. The consultant performed a further breakdown of that account activity into transaction detail. From that breakdown, one specific transaction was randomly chosen (using a random number generator) from each account and the supporting documentation reviewed. A work profile/bill line consists of several components: direct expenses (direct charges and allocations via general TOE/TPIS allocator, as previously discussed), overheads (corporate overheads, direct administration expenses, and occupancy/chargebacks), cost of capital, and adjustments. Direct expenses were tested by reviewing supporting documentation. Overheads were tested by tying the dollar figure to a supporting report and recalculating the amount based on ASI formulas. Cost of capital was also tested by recalculating the amount based on ASI formulas. Some bill lines had no adjustments, while others had significant adjustments; therefore, adjustments were audited as deemed necessary in the consultant's judgment.

The consultant's review of supporting documentation for direct expenses and adjustments revealed only one discrepancy. Because of our testing assumptions, which allowed no more than one discrepancy, no further expansion of sample size was performed. Overheads and cost of capital calculations were analytically reviewed with no significant variances.

The ASI Regional Material Distribution System (RMDS) tracks material sales from ASI to the AOCs. In performing this study, the consultant tested, in detail, a sampling of 37 items from an ASI RMDS report. Through this testing, the consultant was able to test the transaction through to shipment, but was unable to verify the receipt of the goods by the purchaser (either IBT or another AOC) because the receipt documents were not kept at ASI but at various locations throughout the Ameritech territory. The consultant noted whether the methodology of shipment (documented on the shipping manifest) appeared to be reasonable and usual. The consultant also spoke with an IBT manager who receives large materials shipments from ASI on a daily basis and is responsible for resolving shipping discrepancies. The IBT manager was satisfied with the accuracy and timeliness of ASI deliveries; incorrect or short shipments were described as infrequent occurrences. The consultant also reviewed stock activity by month for the previous five years, which revealed that there has been a steady increase in the amount of

inventory shipments to all of the AOCs. This increase appears reasonable due to ASI's continued effort to centralize the purchasing and warehousing functions. The increase in total shipments to IBT and for all the AOCs increased at a steady and relatively consistent rate over the last five years (1987 to 1991).

Belcore invoices ASI which, in turn, invoices (with no additional charges) IBT and the other AOCs. The consultant tested the ASI flow-through of Belcore charges by selecting 37 items at random (again using PPS sampling) and tied these items, without exception, to ASI's supporting documentation (the Belcore bill received by ASI).

The conduit billing, although part of a work profile, is not a part of the professional services billing, but is billed separately to IBT. No exceptions were found.

Identify Target Sample

S-WS-40008 *Select a sample or series of samples to test transactions for appropriateness of costs, assignment costs, and allocation methodologies employed as well as value of services provided.*

Test Objectives and Population Definition

The objective of target testing is to determine the appropriateness of costs, assignment of costs, and allocation methodologies employed, as well as value of services provided. ASI professional services, the largest and most complicated ASI population, was chosen for target testing. The target testing utilized the test period from September 1, 1991 to August 31, 1992, instead of a test month.

Sampling Unit and Sample Size

A tolerable error rate of 10%, an expected error rate of 2%, and a confidence interval of 95%, determines a sample size of 50. The 2% expected error rate is double the expected error rate used for the internal controls testing. This more conservative rate was used due to the complexity of the ASI population and the one exception found during the internal controls testing. Therefore, in this situation, target testing was based upon a sample of 50 items. The sampling unit for target testing was a work profile/bill line combination from the CATS 1170 report, otherwise known as the IBT services bill, which includes charges to IBT only.

Audit Sampling Technique Used

The same audit sampling technique — probability-proportional-to-size sampling — used for internal controls testing also was used for target testing. This technique is described in detail in the internal controls testing section. The cost testing checklist previously described in the internal controls testing section of this chapter was also used for target testing.

Review Statistically Selected Sample of Transactions

Using the cost testing checklist, the consultant audited the supporting documentation and recording of transactions. The consultant reviewed the supporting documentation for approvals, appropriate documentation attached, and proper account codes noted on the documentation. It should be noted that ASI does not assign Part 32 account codes; instead ASI assigns function codes set by IBT. Based on those function codes, Part 32 accounting is determined once billing is received at IBT. The recording of the transaction was reviewed for accuracy and reasonableness in respect to nature of transaction, account code, and amount. Overall, the consultant needed to determine the following:

- If direct expenses were corroborated by supporting documentation
- If overheads applied were reasonable in amount
- If tangible or intangible assets sold (from ASI to IBT), if any, take place at the lower of net book value or fair market value

Based upon these criteria, the consultant determined whether the transaction and the supporting documentation appeared reasonable. Either a "Review" or a "Scan" auditing technique was used during testing to determine the reasonableness of the transaction, including an assessment of the appropriateness of the affiliate charged. For the most part, larger items tested were reviewed rather than scanned. To review an item, the consultant tested in detail one to three direct charges in the work profile/bill line selected for testing by obtaining supporting documentation and corroborating the amount charged. Overheads were reviewed for reasonableness; if no overheads were applied, the consultant reviewed the absence of overheads for reasonableness. If an asset was transferred or sold, the consultant determined whether it had been correctly transferred or sold to IBT at the lower of net book value or fair market value. Scanned items usually included smaller test items for which a similar item was reviewed. Scanning was limited to a quick review of the supporting documentation for one or more direct charges in a work profile/bill line, the applied overheads, and asset transfer/sales (if any). If errors were discovered during a scan, the consultant used judgment in determining how to pursue the error and the extent of further investigation.

The results of the review or scan were noted on a summary worksheet that listed the 50 items tested. The consultant concluded as to direct costs appropriately supported, overheads applied reasonably and if applicable, assets sold at correct value. Then the consultant made an overall assessment as to the accuracy, validity, and reasonableness of the transaction by summarizing the conclusions made for each component of the transaction (direct expenses, overheads, and asset sales, if any). If an exception of any kind was found during testing procedures, the exception was also noted on the summary sheet, along with a recommendation by the consultant, as well as the name, title, and department of ASI personnel who assisted the consultant in determining the nature and extent of the error. The summary worksheet was then used to compile exceptions and, if appropriate, the exceptions were extrapolated over the entire population.

**PUBLIC UTILITIES COMMISSION OF OHIO
PUBLIC SERVICE COMMISSION OF WISCONSIN
AND
FEDERAL COMMUNICATIONS COMMISSION
JOINT AUDIT TEAM**

**REVIEW OF AFFILIATE TRANSACTIONS
AT
AMERITECH SERVICES, INC.**

MAY 1995

**REVIEW OF AFFILIATE TRANSACTIONS
AT
AMERITECH SERVICES, INC.**

EXECUTIVE SUMMARY

Acknowledgements

Concerns about potential cross-subsidies between the telephone companies and the nonregulated affiliates of the Regional Bell Operating Companies (RBOCs) prompted the National Association of Regulatory Utility Commissioners (NARUC) to pass a resolution on November 13, 1991, to conduct audits of affiliated interests at all the RBOCs. Joint audit teams, comprised of staff from the various state regulatory commissions as well as the Federal Communications Commission (FCC), were to conduct these audits. That resolution entrusted the implementation of these joint audits to the NARUC Staff Subcommittee on Accounts.

The joint audit team that examined the affiliate transactions at Ameritech Services, Inc. (ASI) consisted of the following members:

Michael Wilson, Joint Audit Manager - FCC
Joe Buckley - Public Utilities Commission of Ohio
Jim Gould - Public Utilities Commission of Ohio
Kevin Klingbeil - Public Service Commission of Wisconsin
Anne Wiecki - Public Service Commission of Wisconsin

The initiation and coordination of this audit would not have been possible without the efforts of numerous individuals. The audit team would like to recognize and express its appreciation to those individuals who helped make this audit a success.

We wish to thank Cheryl Parrino, Chairman of the Public Service Commission of Wisconsin and a member of the Ameritech Regional Regulatory Committee (ARRC), without whose guidance and perseverance this joint audit would not have been possible. The other members of the ARRC whom we also acknowledge for their support of this audit include the following: Chairman Craig Glazer and Commissioner Jolynn Barry Butler, Public Utilities Commission of Ohio; Commissioner Richard Klein, Indiana Utility Regulatory Commission; Commissioner John O'Donnell, Michigan Public Service Commission; and Chairman Ellen Craig, Illinois Commerce Commission. We also wish to thank Chairman Parrino and Chairman Glazer for allocating the resources that were essential in making this audit possible.

We also wish to thank the following state commission staff directors who were instrumental in allocating their limited resources to provide audit personnel for this joint audit:

David Hodgden - Public Utilities Commission of Ohio
Michael Castle - Public Utilities Commission of Ohio
Scot Cullen - Public Service Commission of Wisconsin
Nicholas Linden - Public Service Commission of Wisconsin

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Finally, we wish to express our thanks to staff of ASI for their efforts in providing information and coordinating the activities between the joint audit team and ASI.

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TRANSACTION TESTING

Value Testing

S-W-10009 *Determine the perceived value of the services provided by ASI with emphasis on the benefits that customers of regulated operations will receive.*

In performing independent value testing of ASI work, each work profile/bill line that was randomly selected for cost testing was also included in the audit's value testing work. An auditor was assigned to each work profile/bill line combination, in which related work profile/bill line activities were reviewed through a series of interviews with ASI and IBT personnel and a review of responses to document requests, as a means for the consultant to assess the value of services provided by ASI to IBT. The value testing work was designed to assess the perceived value of services provided by ASI to IBT with emphasis on the benefits that IBT ratepayers receive. The consultant applied the following tests to each work profile/bill line combination:

- **Is the service used and useful for Illinois ratepayers?** — The consultant concluded that, in general, those work profiles/bill lines examined as part of value testing work provided benefit to Illinois rate payers. The activities related to these work profiles/bill lines generally reflected work that was previously performed by IBT but now was consolidated at ASI.
- **Is there functional duplication between internal (IBT) and external providers (ASI) of the service?** — Based upon the consultant's investigations and analyses, no cases of functional overlap of services were found.
- **Is there evidence of prudence in assessment of the value of the service?** — The extent to which studies were used by ASI and IBT in analyzing the need for services varied widely among work profiles/bill lines. This information has been incorporated into the spreadsheet analysis provided later in this section. Furthermore, *Flaming IV-1* was developed to address the lack of formality in cost/benefit analyses regarding provision of ASI services to IBT.
- **Do realized benefits from providing the service equal or exceed anticipated benefits?** — Based upon the consultant's investigation and analysis for each work profile/bill line combination tested, realized benefits compared favorably to anticipated benefits, specifically the consultant concluded that anticipated benefits at least equaled expected benefits.

The value testing spreadsheet analysis described in this section is intended to supplement and standardize the consultant's professional experience and judgment in conducting the study. It is not intended and has not been used as a substitute for that experience and judgment. Rather, the following text presents the systematic procedure used to summarize the consultant's findings, and concisely states the reasons for and the results of the disallowance of particular expense items, while rendering the comparisons of results among affiliates clearer and easier to understand.

In accordance with value and cost testing procedures previously described, the consultant applied the sampling technique prescribed in the AICPA's published guide for audit sampling the *probability proportional to size* method. The procedure enables the consultant to determine an overall expense allowance ratio based on the results of sampling individual items. The consultant can then apply this expense allowance ratio to the total expenses claimed by the affiliate to determine the total allowable expense for that affiliate.

The consultant's approach incorporated within the spreadsheet applies several types of tests to the value and cost of services for each of the expense items in the sample. If any of these tests fail, part or all of the affiliate's expense item is disallowed. Each test provides an evaluation — in terms of value, costs, or comparison of value and costs — of the service or product that generated the expense item. At the end of testing, the minimum value that emerges from the sequence of tests is assigned as the allowable cost. The allowable cost ratios are then *rolled up* to the expense allowance ratio that is applied to the total expenses of a particular affiliate.

Wage Comparison Indexes

An excellent proxy for IBT's cost of providing the service relative to the affiliate's cost is the relative wage rate for employees engaged in similar work; that is, the ratio of IBT's wage index to a similar index for an affiliate. In the consultant's cost testing, this wage rate is applied to the affiliate's cost when there is no documentation of prospective or realized cost reduction.

Cream Skimming

An incentive noted in the regulatory literature that must be guarded against is *cream skimming* the work force of the operating company by or on behalf of the unregulated part of the company. This practice may arise when the affiliate engages in unregulated as well as regulated business, such as new ventures. Cream skimming consists of hiring the best employees of the regulated operating company to engage in establishing or staffing new ventures. The employees gain valuable knowledge and skills through their experience in working for the telco — knowledge and skills which make the employees more productive. This training, acquired at ratepayer expense, is then transferred to the unregulated affiliate. The affiliate obtains a valuable, experienced employee to work in its unregulated ventures. The telco, conversely, must replace that employee and bear the cost of his or her attainment of valuable knowledge and skills through work experience once again. The argument that the employees hired to the affiliate are more productive must thus be discounted as cream skimming, unless there is a study showing that some aspect of the new work environment accounts for the higher productivity. In such a case, however, the higher productivity is a function of advanced capital or organizational practices, and would not, in a competitive situation, be captured in the workers' wages. Therefore, in the absence of cream skimming, no wage differential should exist between IBT and its affiliates that is not justified by higher costs of living.

Incentives for raiding the regulated company's work force exist in a mixed environment where regulated and unregulated business are pursued by the same parent entity. It is not malevolence, but rather good business practice — from the perspective of the shareholders of the company — that leads to this practice. A major task in the audit of affiliate relations, therefore, should be to

ensure that these practices do not occur, or to disallow the added ratepayer costs when they do occur.

Value Testing Spreadsheet Analysis

The following text sketches a sequence of steps used to determine whether ASI's services provided to IBT are appropriate in terms of value and cost. The first three tests, Steps 1 through 3, require yes or no answers. The consultant goes directly to the disallowance stage if the item fails any one of these steps.

- Step 1 Determine whether service is allocable to regulated business under Part 64 of CFR (Code of Federal Regulations). If so, enter 1 in column 1.
- Step 2 Determine whether the services are customarily provided to similar telcos. That is, is the service useful? If so, enter 1 in column 2.
- Step 3 Determine whether there is *functional duplication of services* between those provided internally by IBT and those services provided by its affiliates. If there is no functional duplication, enter 1 in column 3.

If the above three tests are successfully met (the number 1 has been entered by the consultant in each test), the item expense is potentially allocable to IBT. If any one of the tests is failed (the number 1 is not entered by the consultant for all tests), the total item expense is disallowed.

The approach to value testing following application of the first three tests consists of testing for studies that have been carried out to determine the value of the service. This test falls under the "prudence" objective. If there are no studies relevant to establishing the *need for the service* (Step 4.), or the *quantity of service to be provided* (Step 5), the value of the service is set to the cost of providing the service at IBT, based on wage differentials.

The use of estimated IBT costs as a default value is appropriate for two reasons. First, most of the services transferred to Ameritech Corporate and ASI in and since 1990 were formerly provided by IBT or not at all. Second, IBT is therefore a demonstrably qualified provider of the services. The mere fact of centralization does not establish a presumption that economies are achieved. There have been few studies that establish potential economies from the reorganization. Also, there has not been any studies that have estimated savings after the fact. Conversely, there is evidence, based on wage histories of transferred employees, that labor costs are higher at Ameritech Corporate and ASI than at IBT.

- Step 4 Determine whether studies to ascertain the need for the services have been performed, preferably studies conducted by a third party (not an affiliate). Such studies are evidence of *prudence in value assessment* exercised on behalf of ratepayers. If a study asserting the need for the service has been conducted by a third party (neither IBT nor an affiliate), enter 1 in column 4A. If a study asserting the need for the service has been conducted by IBT or an affiliate, enter 1 in column 4B. If no study has been performed, the allowable expense will be the IBT cost